

PRELIMINARY AMENDMENT

Serial Number: Unknown

Filing Date: Herewith

Title: MONOLITHIC NANOFUID SIEVING STRUCTURES FOR DNA MANIPULATION

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Dkt: 1153.032US1

26. (New) The method of claim 25 wherein the substrate comprises a floor layer forming a floor of the fluidic devices.

Sub B17 27. (New) A method of forming a fluidic system, the method comprising:  
forming a patterned sacrificial layer on a substrate;  
forming a ceiling layer on the patterned sacrificial layer;  
forming access holes through the ceiling layer to the patterned sacrificial layer; and  
removing the patterned sacrificial layer via the access holes.

28. (New) The method of claim 27 wherein the fluidic system is defined by the ceiling layer and substrate.

Sub B17 29 30. (New) The method of claim 27 wherein the substrate comprises a floor layer forming a floor of the fluidic system.

30 31. (New) A method of forming fluidic system s, the method comprising:  
forming a patterned sacrificial layer on a substrate;  
forming a ceiling layer on the patterned sacrificial layer;  
forming access holes through the ceiling layer to the patterned sacrificial layer;  
removing the patterned sacrificial layer via the access holes; and  
covering the access holes such that the fluidic systems are defined by the ceiling layer and substrate.

31 32. (New) The method of claim 31 wherein the substrate comprises a floor layer forming a floor of the fluidic systems.

32 33. (New) The method of claim 31 wherein the ceiling layer comprises a dielectric material.

33 34. (New) The method of claim 31 wherein the sacrificial layer comprises amorphous silicon or polysilicon.

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- 34 35. (New) The method of claim 31 wherein the fluidic systems comprise channels.
- 35 36. (New) The method of claim 31 and further comprising forming further fluidic devices on top of the already formed fluidic systems and forming interconnects therebetween.
- 36 37. (New) The method of claim 31 wherein the layers are formed using chemical vapor deposition.
- 37 38. (New) The method of claim 31 wherein the sacrificial layer is removed by providing an etchant through the access holes.
- 38 39. (New) The method of claim 38 wherein the etchant comprises tetramethyl ammonium hydroxide.
- 39 40. (New) A method of forming fluidic devices, the method comprising:  
depositing sacrificial layer on a substrate;  
lithographically patterning the sacrificial layer;  
depositing a ceiling layer on the patterned sacrificial layer;  
forming access holes through the ceiling layer to the patterned sacrificial layer;  
etching the patterned sacrificial layer via the access holes; and  
oxidizing the access holes.